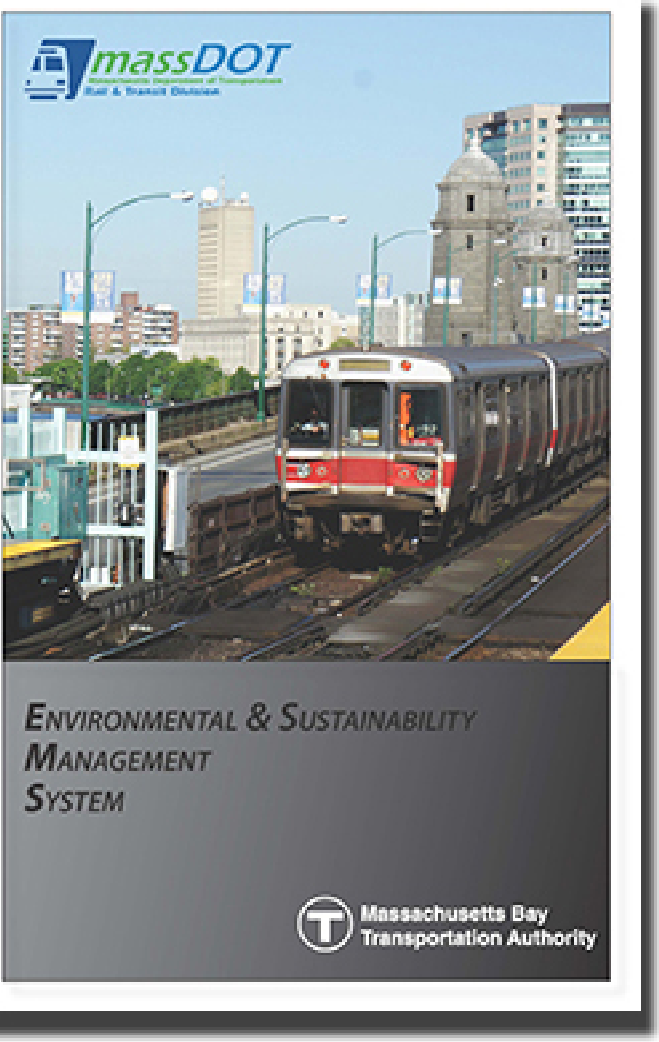

massDOT
Massachusetts Department of Transportation
Rail & Transit Division

Environmental & Sustainability Management System

Massachusetts Bay Transportation Authority

Table of Contents

EXECUTIVE SUMMARY

1.0 Organization, Personnel, and Oversight of Pilot EMS

1.1 EMS Organization, Implementation and Maintenance……………………1
1.2 Organization Chart……………………………………………1
1.3 Duties, Roles, Responsibilities and Authority……………………… 3
1.4 Communication…………………………………………………7

2.0 Accountability and Responsibility

2.1 Accountability for Performance…………………………………2
2.2 Incentive Programs……………………………………………3

3.0 Environmental Requirements

3.1 Identification, Interpretation and Communication……………………1
3.2 Proposed Changes in Environmental Requirements…………………6
3.3 Communication with Regulatory Agencies…………………………7

4.0 Assessment, Prevention, and Control

4.1 Ongoing Process of Assessing Operations……………………………1
4.1.1 Monitoring and Measurements…………………………………1
4.2 Standard and Operating Practices…………………………………2
4.3 Conducting and Documenting Routine Self-Inspections…………………3
4.4 Ensuring Input of Environmental Requirements………………………4

5.0 Environmental Incident and Noncompliance Investigations

5.1 Internal and External Incident & Noncompliance Reporting………………1
5.2 Investigation and Corrective Actions………………………………2
5.3 Follow-Up System……………………………………………2

6.0 Environmental Training, Awareness, and Competence

6.1 Specific Training and Documentation……………………………1
6.2 MBTA Management and Employee Awareness………………………4
6.3 Competency…………………………………………………4

7.0 Environmental Planning and Organizational Decision-Making

7.1 Integration of Environmental Planning……………………………1
7.2 Goals, Objectives and Action Plans………………………………2

8.0 Maintenance of Records and Documentation

8.1 Record Maintenance…………………………………………1
8.2 Data Management Systems……………………………………2

9.0 Pollution Prevention Program

10.0 Continuing Program Evaluation and Improvement

10.1 Periodic Evaluation of the EMS…………………………………1
10.2 Ongoing Evaluation of Compliance………………………………2

Table of Contents

10.2.1 Periodic Inspections……………………………………….3
10.2.2 Environmental Compliance Audit……………………………….3
10.2.3 Annual EMS Evaluation……………………………………….4

11.0 Public Involvement/Community Outreach

Background

The MBTA is the fifth largest mass transit system in the United States as measured by ridership. The Authority serves a daily ridership of approximately 1.2 million passengers. To provide these services the Authority maintains 200 bus routes, 4 rapid transit lines of heavy and light rail, 1 bus rapid transit line, 4 trackless trolley lines, 11 commuter rail lines, several ferry lines and a paratransit service. Its large roster of equipment currently consists of 408 heavy rail vehicles, 204 light rail vehicles, 927 diesel buses, 61 compressed natural gas (CNG) buses, 2 prototype alternative fuel buses, 40 trackless trolleys, 80 commuter rail locomotives, 377 commuter rail coaches, 2 ferry boats, and 418 vehicles for the RIDE. Service is provided to 275 stations. The Authority maintains 885 miles of track, 478 bridges, and 20 miles of tunnels. System expansion efforts over the next five years include two new commuter rail lines and the new Silver Line. The MBTA operates 19 commuter rail, light/heavy rail and bus maintenance facilities, numerous right-of-way (ROW) maintenance facilities, and currently has 6,000+ employees.

The Massachusetts Bay Transportation Authority (MBTA) is dedicated to providing safe, reliable, world class public transportation in an environmentally sound and responsible manner. The MBTA helps to protect our natural resources by providing an alternative to the automobile for over one million people each day. Beginning with the adoption of an environmental policy on Earth Day 2002, the MBTA under the direction of the General Manager began a strategic initiative to improve environmental performance through the development of a transit-based Environmental Management System (EMS). The MBTA's EMS provides a disciplined framework for meeting environmental responsibilities and continually improving performance.

The support of MBTA top management is vital to the success of the EMS development and implementation process. At the outset, the MBTA formed an EMS Team with team members participating in an FTA Sponsored EMS Implementation Course. In January of 2004 the MBTA EMS Team began conducting an initial assessment of current environmental management practices, relating to operations at the Wellington Carhouse Facility and the Albany Street Bus Garage (the "Pilot Facilities"). The purpose of the initial assessment was to obtain onsite knowledge and understanding of the environmental activities and issues related to the operation of the MBTA Pilot Facilities. The initial assessment also provided MBTA management and the EMS Team with an understanding of the need to develop a formal EMS to provide a disciplined framework for meeting environmental responsibilities and continually improving performance.

FTA EMS Implementation Course

The MBTA formed a seven-member core team to travel to Roanoke, Virginia for EMS training. The core team consisted of two representatives from the Environmental Affairs Department, two representatives from Subway Operations, two representatives from Bus Operations, and one representative from Operation and Support:

- Assistant General Manager for Environmental Affairs
- Environmental Counsel
- Chief Mechanical Officer, Subway Operations
- Superintendent, Orange Line (Subway)
- Deputy Chief Mechanical Officer Bus Operations
- Superintendent Bus Operations
- Environmental Coordinator, Operations and Support

Upon return to the Authority, the Core Team was expanded to include additional, members representing Subway Operations, Bus Operations, Environmental Department, Safety Department, and Labor Relations. The Core Team established a standing meeting every Thursday morning.

The MBTA selected two facilities, the Wellington Carhouse Maintenance Facility (Wellington) and the Albany Street Bus Garage Facility (Albany) respectively, to represent Subway Operations and Bus Operations for its fenceline. Each fenceline facility established an Environmental Sub-team. The Sub- teams consisted of employees at each facility representing all operations and trades conducted at the facility. Members of the Core Team meet with the Sub-teams on a regular basis as a way of tracking progress at each facility.

Members of the Core Team met with Environmental Sub Teams at both Wellington and Albany. After reviewing operations and processes within both facilities, many environmental aspects and impacts were identified. For the development of our EMS, the MBTA selected the four most significant aspects identified at the fenceline facilities, and established objectives and targets to improve our environmental performance of each.

Implementation

It is anticipated that the EMS for the fenceline facilities will be operational by the summer of 2006. The MBTA is committed to implementing a system-wide EMS over the next five years. The EMS implemented at the fenceline facilities will be evaluated annually by the MBTA Core Team and fenceline facility superintendent.

The MBTA has developed a Pilot EMS Manual, as well as an Environmental Management System Page on our Portal. The MBTA Portal is an online resource that provides information to employees via the web-browser, 24 hours a day, 7 days a week. The MBTA has incorporated the SOPs, Environmental Procedures, and Programs developed during the FTA EMS Implementation Course into the Pilot EMS Manual. We have found both our EMS Manual and the Portal useful tools for EMS Training and Documentation.

EMS Pilot Manual

This EMS Pilot Manual provides the Pilot Facilities with a framework for developing and implementing a facility EMS. The Manual sets forth policies and guidelines which instruct the Pilot Facilities on how to operate and maintain the EMS to assure continued compliance with applicable federal, state and local environmental laws, regulations, permits and EMS requirements.

The EMS Pilot Manual is intended as a practical tool to promote the integration of effective environmental practices into the daily management of the MBTA. It provides a detailed description of the current situation and identifies steps that will need to be taken on a range of environmental issues to ensure that the MBTA is in compliance with environmental legislation, is improving its environmental performance and is performing the various monitoring activities required by the EMS. The responsible authorities for each environmental topic, aspect and target are clearly identified and the procedure for conducting a management review is explained in detail.

The EMS Pilot Manual provides guidance on conducting operations in compliance with environmental requirements and is organized around eleven (11) key elements. The principal elements of the system described in this manual are:

Environmental Management System Overview

EMS Component	Description
Organization and Implementation	Describes, organizationally, how the EMS will be implemented and maintained. Includes organization charts and defines duties, roles and responsibilities. Includes ongoing means of communicating environmental issues and information.
Accountability and Responsibility	Describes accountability and responsibilities of MBTA management, employees, on-site service providers, and contractors for environmental protection practices and assuring compliance. Includes potential consequences for departure from specified operating procedures.
Environmental Requirements	Describes processes for identifying, interpreting, and effectively communicating environmental requirements to MBTA employees, on-site service providers and contractors.
Assessment, Prevention and Control	Identifies the ongoing process for assessing operations, for the purpose of preventing and controlling pollutant releases, ensuring environmental protection, and maintaining compliance with regulatory requirements. Describes a process for identifying operations and activities where standard operating practices (SOPs) are required.
Incident and Noncompliance Investigations	Describes standard procedures and requirements for internal and external incident and noncompliance reporting.

Environmental Training, Awareness And Competence	Identifies specific education and training required for MBTA personnel, as well as the process of documenting the training provided.
Environmental Planning and Organizational Decision-Making	Describes how planning will be integrated into the organizational decision-making. Includes priorities and written goals, objectives, and action plans.
Maintenance of Records and Documentation	Identifies the types of records that are developed in support of the EMS, who maintains them and where, and protocols for responding to inquiries and requests for release of information.
Pollution Prevention Program	Describes an internal program for preventing, reducing, recycling, reusing, and minimizing waste generation, water use, and emissions.
Continuing Program Evaluation and Improvement	Describes a program for periodic evaluation of the EMS and a program for ongoing evaluation of environmental compliance.
Public Involvement/Community Outreach	Describes a program to promote the ability of employees and the public to communicate directly to the MBTA on the MBTA's commitment to the environment.

1.0 Organization, Personnel, and Oversight of EMS

The MBTA has established a clear organizational structure and lines of responsibility for the EMS. Sound environmental practices are considered everyone’s job at the MBTA. This responsibility is considered into all position descriptions as a general performance element on environmental management. The EMS compiles a listing of MBTA employees with responsibility under the EMS and reviews position descriptions and job responsibilities for all employees at the Pilot Facilities. The EMS also identifies key roles and responsibilities for appropriate third parties (on-site service providers, contractors) operating at the MBTA. These roles and responsibilities are incorporated into appropriate contract documents. MBTA employees are informed of their designated environmental responsibilities when they start their job. They are made aware of these responsibilities and associated environmental practices at the time of assignment though training and specific job orientation provided by their supervisor.

1.1 EMS Organization, Implementation and Maintenance

Responsibility for the maintenance of the EMS, and for monitoring EMS activities rests with the MBTA EMS Team. This team is under the direction of the MBTA General Manager, Chief Operating Officer and Assistant General Manager for Environmental Affairs. The MBTA General Manager and MBTA EMS Team will ensure the development, implementation, and maintenance of the EMS.

The MBTA has defined, documented, and communicated the roles, responsibilities, and authorities of those involved in the MBTA EMS to facilitate effective environmental management. The documented procedures that implement the objectives and mandates set forth in this EMS Pilot Manual are as follows:

ENV-PRO-001	Environmental Policy Procedure
ENV-PRO-002	Aspects & Impacts Procedure
ENV-PRO-003	Legal & Other Requirements Procedure
ENV-PRO-004	Objectives & Targets Procedure
ENV-PRO-005	EMP Procedure
ENV-PRO-006	Structure & Responsibility Procedure
ENV-PRO-007	Training Awareness Procedure
ENV-PRO-008	Communication Procedure
ENV-PRO-009	EMS Documentation Procedure
ENV-PRO-010	Document Control Procedure
ENV-PRO-011	Operational Control Procedure
ENV-PRO-012	Emergency Preparedness Procedure
ENV-PRO-013	Monitoring & Measuring Procedure
ENV-PRO-014	Nonconformance & Corrective Action Procedure

ENV-PRO-015	Records Maintenance Procedure
ENV-PRO-016	EMS Auditing Procedure
ENV-PRO-017	Management Review Procedure
ENV-PRO-018	SOP Procedure

Responsibility for EMS implementation and compliance at the Pilot Facilities rests with the Pilot Facility.

1.2 Organizational Structure

The MBTA General Manager is responsible for establishing the overall organization management structure, including roles, responsibilities, and authority for environmental management, and for deciding upon and allocating the resources necessary to implement the MBTA EMS. The MBTA General Manager is also responsible for delegating the appropriate authority within the organizational structure to ensure implementation. The MBTA EMS Team is responsible for coordinating activities necessary to ensure EMS requirements are established, implemented, and maintained.

The MBTA Assistant General Manager for Environmental Affairs is responsible for the development and implementation of MBTA environmental policies and programs and the management of designated MBTA environmental projects. Specific roles and responsibilities for personnel within the MBTA EMS are detailed in Section 1.3.

1.3 Duties, Roles, Responsibilities and Authority

The MBTA EMS Team oversees the EMS at each MBTA Facility. The responsibility of the MBTA EMS Team is to administer the EMS Facility-wide. Though the MBTA EMS Team has overall responsibility for developing and implementing the EMS, the primary responsibility for environmental compliance is the Pilot Facility. The efforts of all employees are required in achieving and maintaining environmental compliance. Duties, roles, responsibilities, and authorities include the following Roles & Responsibility Matrix:

EMS DOCUMENT NUMBER: ENV-MTX-001 Revision Date: 9/09/05 Effective: Issued By: EMS Team

ROLES & RESPONSIBILIIES MATRIX

	Deputy General Manager Finance	**AGM** **Planning, Realestate and Environmental Affairs**	**Environmental Counsel**	**Director Environmental Compliance**	**Director Operations Support**	**Director System Maintenance**	**Director** Bus Operations	**Director** System Maintenance and Improvements	**Director** Subway Operations and Vehicle Engineering	**Director** Bus Operations and Engineering	**Superintendents of Facilities**		**Facility Manager** Subway Operations	**Employees**			**Employees**	**Employees**	**Employees**
Communicates Environmental Policy *Section 1.0 - Organization & Oversight of EMS* *EMS Procedure: ENV-PRO-001*	S	L	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Establishes Objectives and Targets *Section 7.0 - Environmental Planning* *EMS Procedure: ENV-PRO-004*		S	L			S													
Identifies legal and other requirements *Section 3.0 - Environmental Requirements* *EMS Procedure: ENV-PRO-003*				L															
Obtain permits and compliance plans *Section 4.0 - Assessment, Prevention & Control* *EMS Procedure: ENV-PRO-018*			L				L												
Submits EMS Budget requests *Section 2.0 - Accountability & Responsibilty* *EMS Procedure: ENV-PRO-006*			L				L												
Communications with interested parties *Section 11.0 - Public Involvement/Community Outreach* *EMS Procedure: ENV-PRO-008*		L																	
Coordinates Environmental Training *Section 6.0 - Environmental Training* *EMS Procedure: ENV-PRO-007*						L			L		L		L						
Ensures EMS Documentation is maintained *Section 8.0 - Maintenance of Records & Documentation* *EMS Procedure(s): ENV-PRO-010 & ENV-PRO-015*		L																	
Communicates EMS to Contractors and Serv.Providers *Section 1.0 - Organization & Oversight of EMS* *EMS Procedure: ENV-PRO-008*					L			L		L		L							
Ensures Corrective Actions are tracked/Management Review *Section 5.0 - Incident & Noncompliance Investigations* *EMS Procedure: ENV-PRO-0144*		L																	
Comply with regulatory requirements *Section 3.0 - Environmental Requirements* *EMS Procedure: ENV-PRO-003*					L	S	L	S	S	S	S	S	S	S	S	S	S	S	S
Conform with EMS requirements *Section 2.0 - Accountability & Responsibility* *EMS Procedure: ENV-PRO-006*			L			L	S		L		L		L	S	S	S	S	S	S
Maintain equipment / Calibration Impact *Section 4.0 - Assessment Prevention & Control* *EMS Procedure: ENV-PRO-013*					L	S	L		S		S		S						

Legend: L = Lead Role; S = Supporting Role

1.4 Communications

The MBTA EMS Team has developed Communication Procedure [ENV-PRO-008] to:

§ Advise senior MBTA management of environmental matters.
§ Communicate specific instructions to employees with key EMS related responsibilities.
§ Disseminate environmental information to Facility Managers.
§ Communicate environmental requirements to contractors and on-site service providers.
§ Facilitate feedback from Facility personnel and external parties related to environmental deficiencies or concerns, and to respond to those concerns in a timely manner.

Mechanisms to accomplish these objectives may include, but are not limited to, staff meeting presentations, training sessions, newsletters, e-mails and standard operating procedures. The system will apply to both internal and external communication as follows:

§ Communications will be documented as per Section 8.0 of the Pilot EMS Manual.
§ Internal environmental issues and concerns will be submitted to the MBTA EMS.
§ Media/public communications are handled by the General Manager's Office, along with Marketing and Communications and Public Affairs.

Ree2.0 Accountability and Responsibilities

The MBTA has assigned roles, responsibilities, and accountability to personnel charged with both specific EMS and general environmental management activities within the MBTA in accordance with the Structure & Responsibility Procedure [ENV-PRO-006]. Under the MBTA EMS, every employee is individually responsible for working in an environmentally responsible manner and ensuring that fellow employees do the same. EMS responsibilities have the same priority as operational decisions and they must be treated with equal importance. The MBTA General Manager, Chief Operating Officer and Assistant General Manager for Environmental Affairs shall provide strong, visible commitment, leadership and personal involvement in the MBTA EMS. In turn, the MBTA EMS Team, Environmental Management Department and the Pilot Facility Superintendent will be held accountable for demonstrating correct environmental behaviors, clearly defining environmental roles and responsibilities, providing necessary resources, and measuring, reviewing and continuously improving environmental performance at the Pilot Facilities.

Pilot Facilities EMS Accountability and Responsibility

Title	EMS Accountability and Responsibility
General Manager, Chief Operating Officer, Assistant General Manager for Environmental Affairs, EMS Team, and Environmental Management Department	Accepts the responsibility for leadership of the EMS, for its effectiveness and improvement, and for providing the resources required to ensure environmentally responsible conditions. Demonstrate visible commitment to the EMS and provide the necessary resources to develop and maintain an active EMS throughout the MBTA. Provide strong, visible leadership and actively participate in the continuing drive toward a culture that places the EMS equal in importance to other critical business objectives. Responsible for establishing clear EMS goals and objectives, roles and responsibilities, performance measures and allocating adequate resources. Visible management includes setting a personal example, and actively contributing to EMS activities, reinforcing and rewarding positive behavior and engaging in two-way communication with employees. Encourage the involvement of all employees and empower them to develop and implement solutions to EMS issues
Pilot Facility [Bus Operations] Director of Bus Operations and Vehicle Engineering, Chief Mechanical Officer of Bus Operations and Deputy Chief Mechanical Officer of Bus Operations	Responsible for establishing clear EMS goals and objectives, roles and responsibilities, performance measures and allocating adequate resources. Responsible for setting a personal example, and actively contributing to EMS activities, reinforcing and rewarding positive behavior and engaging in two-way communication with employees. Encourage the involvement of all employees and empower them to develop and implement solutions to EMS issues. Encourage the involvement of all employees and empower them to develop and implement solutions to EMS issues.
Pilot Facility [Subway Operations] Director of Subway Operations and Rail Vehicle Engineering, Division Orange Line Operations and Division Chief Subway Operations	Responsible for establishing clear EMS goals and objectives, responsibilities, performance measures and allocating adequate resources. Responsible for setting a personal example, and actively contributing to EMS activities, reinforcing and rewarding positive behavior and engaging in two-way communication with employees.

	Encourage the involvement of all employees and empower them to develop and implement solutions to EMS issues. Encourage the involvement of all employees and empower them to develop and implement solutions to EMS issues.
Pilot Facility Superintendent	Communicate and implement EMS policies that meet applicable internal and external requirements. Identify and set clear EMS performance targets and develop a system to assure compliance. Communicate these targets to the Pilot Facility employees, contractors; and on-site service providers. Inform the Pilot Facility employees, contractors and on-site service providers on what is required of them to achieve these targets.
Pilot Facility Supervisor and/or Foreman	Develop proper attitudes towards environmental issues in themselves as well as direct those whom they supervise toward this goal. Ensure that all operations are performed with the utmost regard for the protection of the environment.
Pilot Facility Employees	All employees are accountable and responsible for their actions. MBTA employees shall demonstrate visible commitment to the EMS. Employees will be individually responsible and accountable for EMS issues relating to themselves or others with whom they associate. All employees are responsible for wholehearted, genuine cooperation with every aspect of the EMS. This includes compliance with all rules and regulations and continuous, environmentally responsible job performance.
Contractors and On-Site Service Providers	Contractors and on-site service providers are accountable and responsible for their actions and compliance with the EMS as it applies to their respective contracted operations or services. Contractors and on-site service providers are made aware of the MBTA EMS program requirements through the contracting-out/tendering process of the Procurement Department. Applicable contracts specify that the contractor' s work must comply with the MBTA EMS and specified requirements.

2.1 Accountability for Poor Performance

The MBTA has integrated environmental performance into its existing discipline policy: "The Massachusetts Bay Transportation Authority Discipline Policy". Infractions of the EMS would be administered under this policy.

Pilot Facilities Environmental Performance

Title	Consequence for Poor Performance
General Manager, Chief Operating Officer, Assistant General Manager for Environmental Affairs, EMS Team, and Environmental Management Department and Pilot Facility employees.	Management and other employees with accountability and responsibility for the MBTA EMS shall be evaluated for their environmental performance. Evaluations for these employees must consider the status of objectives related to EMS compliance. Management and other employees shall be subject to disciplinary actions (including termination of employment) if they violate environmental regulations and procedures.

Title	Consequence for Poor Performance
Pilot Facility [Bus Operations] Director of Bus Operations and Vehicle Engineering, Chief Mechanical Officer of Bus Operations and Deputy Chief Mechanical Officer of Bus Operations Pilot Facility [Subway Operations] Director of Subway Operations and Rail Vehicle Engineering, Division Orange Line Operations and Division Chief Subway Operations	Management and other employees with accountability and responsibility for the MBTA EMS shall be evaluated for their environmental performance. Evaluations for these employees must consider the status of objectives related to EMS compliance. Management and other employees shall be subject to disciplinary actions (including termination of employment) if they violate environmental regulations and procedures.
Pilot Facility Superintendent, Supervisor and/or Foreman	Assess duties in the course of day-to-day. Responsible for correcting staff on an ad hoc basis when improper procedures are observed. Also responsible for employees under their administration. This responsibility considers job specific performance requirements in the position descriptions, as well as in meeting EMS goals. Failure to complete designated environmental responsibilities in a satisfactory manner may be grounds for disciplinary action and termination dependant upon the severity and persistence of the behavior.
Contractors and On-Site Service Providers	Contractors and on-site service providers shall be managed to ensure that their equipment, products and services meet applicable EMS standards. Contractors and on-site service providers shall be evaluated and selected based on their ability to deliver a quality product or service in an environmentally acceptable manner. A major criterion in the selection of contractors and on-site service providers is their demonstration of, and adherence to, effective environmental practices. They must conduct their services consistent with our EMS policies and the contractual requirements appropriate for the nature and magnitude of the work being provided. Each contractor and on-site service provider with accountability and responsibility for EMS compliance and environmental performance shall be evaluated for their environmental performance. Substandard performance will be grounds for dismissal or contract revocation. Performance shall be reviewed as necessary but at least during contract or purchase order renewal. Purchase Orders to service providers and contractors must not relieve them of their accountability for their actions and the enforcement provisions of laws and regulations that apply to their services or actions.

2.2 Incentive Programs

The MBTA encourages personnel involvement in the process of EMS improvement and recognizes employees for excellent environmental performance.

3.0 Environmental Requirements

The MBTA has established an environmental procedure for the purpose of identifying, accessing and communicating environmental requirements that are applicable to the Pilot Facilities, Legal & Other Requirements Procedure [ENV-PRO-003]. It is the responsibility of the Pilot Facility Superintendent to ensure that the Pilot Facility maintains compliance with applicable environmental regulations.

3.1 Identification, Interpretation and Communication

Environmental regulations are identified, accessed and communicated by the MBTA EMS Team. The Pilot Facility Superintendent works closely with the MBTA EMS Team to ensure environmental compliance is maintained at the Pilot Facility. The MBTA EMS Team provides environmental compliance guidance and ensures relevant issues are properly researched. Environmental requirements are communicated to MBTA employees through policy memos, formal regulations, inspections, audits and training. Environmental training, addressed in Section 6 of this Manual and the Training Awareness Procedure [ENV-PRO-007], further serves to communicate and reinforce environmental requirements that are applicable to the Pilot Facilities.

Environmental requirements are communicated to contractors and on-site service providers through the contracting-out/tendering process of the Procurement Department. Applicable contracts specify that the contractor’ s work must comply with the MBTA EMS and specified requirements.

The environmental requirements that the Pilot Facilities must meet are contained in:

§ federal, state and local regulations;
§ environmental permits; and
§ other requirements (e.g., Administrative Consent Orders).

Additional requirements may arise from specific MBTA procedures or practices. The following is a list of environmental requirements that may affect operations at the Pilot Facilities:

ENVIRONMENTAL REGULATIONS MATRIX

Regulation	Subject	This Regulation Applies to this Facility	
MGL c. 111 § 2B-2C; § 31C; § 142A-142M; 150A-B	**Air Quality**		
310 CMR 7.01(1)	Causing or contributing to a condition of air pollution	☐ Yes	☒ No

Regulation	Subject	This Regulation Applies to this Facility	
310 CMR 7.01(2)	Certification of air quality documentation	☐ Yes	☒ No
310 CMR 7.02(2)-(4) 310 CMR 7.03	Air Plan Approval permits	☒ Yes	☐ No
310 CMR 7.02(6)	Removal of air pollution control equipment	☐ Yes	☒ No
310 CMR 7.00 Appendix C	Operating permits	☒ Yes	☐ No
310 CMR 7.02(8)	Particulate & NOx limits for fuel burners	☐ Yes	☒ No
310 CMR 7.02(12)	Restricted emissions status permits	☐ Yes	☒ No
310 CMR 7.02(14)	Technical and management specifications for standby and emergency engines	☒ Yes	☐ No
310 CMR 7.04(2)	Smoke density indicators for fuel burners	☒ Yes	☐ No
310 CMR 7.04(4)	Maintenance and testing of fuel burners	☒ Yes	☐ No
310 CMR 7.04(5)	Automatic viscosity controllers for residual fuel oil burners	☒ Yes	☐ No
310 CMR 7.04(9)	Design and operation of waste oil burners	☐ Yes	☒ No
310 CMR 7.05	Fuel restrictions	☐ Yes	☒ No
310 CMR 7.06	Opacity/smoke density limits for fuel burner emissions	☐ Yes	☒ No
310 CMR 7.07	Open burning of combustible material	☐ Yes	☒ No
310 CMR 7.08	Design and operation of incinerators	☐ Yes	☒ No
310 CMR 7.09	Construction and demolition causing or contributing to air pollution	☐ Yes	☒ No
310 CMR 7.10	Causing or contributing to a condition of noise pollution	☐ Yes	☒ No
310 CMR 7.11	Motor vehicle emission standards	☒ Yes	☐ No
310 CMR 7.12	Source registration	☐ Yes	☒ No
310 CMR 7.13	Stack testing	☐ Yes	☒ No
310 CMR 7.16	Rideshare program and trip reduction incentives	☒ Yes	☐ No
310 CMR 7.18	Volatile organic compound emission limits and controls	☐ Yes	☒ No
310 CMR 7.24(1)	Vapor control for organic material storage	☐ Yes	☒ No
310 CMR 7.24(2)	Stage I vapor control for fuel storage tanks	☒ Yes	☐ No
310 CMR 7.24(6)	Stage II vapor control for vehicle fuel systems	☒ Yes	☐ No

Regulation	Subject	This Regulation Applies to this Facility	
	systems		
310 CMR 7.27	Emission control plans	☐ Yes	☒ No
MGL c. 21C	**Hazardous Materials (Waste)**		
310 CMR 30.224(4)	Permits for waste oil space heaters	☐ Yes	☒ No
310 CMR 30.253	Waste oil storage and disposal	☒ Yes	☐ No
310 CMR 30.270	Standards for Class B(4) recyclable material (e.g. photo lab, x-ray waste)	☐ Yes	☒ No
310 CMR 30.302	Determination of whether a waste is hazardous	☒ Yes	☐ No
310 CMR 30.303 310 CMR 30.351(10)(c) 310 CMR 30.353(5)	Hazardous waste and waste oil generator registration	☒ Yes	☐ No
310 CMR 30.333	Hazardous waste exception reporting	☒ Yes	☐ No
310 CMR 30.750	Land disposal restrictions	☒ Yes	☐ No
310 CMR 30.1000	Disposal of universal waste	☒ Yes	☐ No
310 CMR 30.340(1)(b), 30.351(8)(a)	Hazardous waste labeling	☒ Yes	☐ No
310 CMR 30.332	Hazardous waste biennial reporting	☒ Yes	☐ No
310 CMR 30.340 310 CMR 30.351 310 CMR 30.353	Hazardous waste storage and accumulation	☒ Yes	☐ No
310 CMR 30.322-30.324; 310 CMR 340(1)(c) 310 CMR 351(11) 310 CMR 353(e)	Marking and labeling waste for disposal	☒ Yes	☐ No
310 CMR 30.340(1)(d)(2) 310 CMR 30.351(9)(g)	Hazardous waste employee training	☒ Yes	☐ No
310 CMR 30.340(1)(d)(2) 310 CMR 30.351(9) 310 CMR 30.353(7)(h)	Hazardous waste emergency planning	☒ Yes	☐ No
MGL c. 146, § 22 MGL c. 148, § 37 MGL c. 21E	**Underground and Aboveground Storage Tanks**		
527 CMR 9.03(B)	Secondary containment for ASTs	☒ Yes	☐ No
527 CMR 9.05(D)	Leak detection for USTs	☒ Yes	☐ No
527 CMR 9.05(E)	Inventory monitoring for USTs	☒ Yes	☐ No
527 CMR 9.05(F)	Tightness testing of USTs	☒ Yes	☐ No
527 CMR 9.05(G)	Upgrading of USTs	☒ Yes	☐ No
527 CMR 9.05(G)(2)	Spill Containment for USTs	☒ Yes	☐ No

Regulation	Subject	This Regulation Applies to this Facility	
527 CMR 9.05(G)(3)	Overfill protection for USTs	☒ Yes	☐ No
527 CMR 9.05(G)(11)	Corrosion protection for USTs	☒ Yes	☐ No
527 CMR 9.07(J)	Removal of abandoned USTs	☒ Yes	☐ No
527 CMR 9.07(M)	Registration and permitting of USTs	☒ Yes	☐ No
527 CMR 9.06	Waste oil storage tanks	☒ Yes	☐ No
527 CMR 9.07	Notification to DEP prior to UST removal	☒ Yes	☐ No
40 CFR 112	Spill Prevention Control and Countermeasure Plans	☒ Yes	☐ No
	PCB Equipment		
40 CFR 761 Subpart C	Marking and labeling of PCB equipment	☐ Yes	☒ No
40 CFR 761 Subpart D	Storage and disposal of PCB equipment	☐ Yes	☒ No
40 CFR 761 Subpart G	Cleanup of PCB spills	☐ Yes	☒ No
40 CFR 761 Subpart J	General record keeping for PCB equipment	☐ Yes	☒ No
40 CFR 761 Subpart K	PCB waste disposal record keeping	☐ Yes	☒ No
MGL c. 21E MGL c. 21H MGL c. 111 § 150A-150A1/2	**Waste Site Cleanup and Solid Waste Landfill Closure**		
310 CMR 40.0000 Subpart C	Reporting of hazardous material releases	☒ Yes	☐ No
310 CMR 40.0000 Subpart E	Assessment and cleanup of hazardous material releases	☒ Yes	☐ No
310 CMR 40.0000 Subpart J	Maintenance of Response Action Outcomes & Activity and Use Limitations	☐ Yes	☒ No
310 CMR 40.0300	Management of remediation wastes	☐ Yes	☒ No
310 CMR 40.0400	RAM, URAM, LRA approvals	☐ Yes	☒ No
310 CMR 19.014, 19.021	Closure of unpermitted waste dumps	☐ Yes	☒ No
MGL c. 21 § 26-53	**Water Pollution Control; Underground Injection Control**		
310 CMR 15.00	Septic systems: Title 5	☐ Yes	☒ No
310 CMR 27.04	Underground injection (e.g. floor drains)	☒ Yes	☐ No
314 CMR 3.03-04	Surface water discharge permits	☒ Yes	☐ No

Regulation	Subject	This Regulation Applies to this Facility	
314 CMR 3.10(9) 314 CMR 3.19(11)	Surface water discharge monitoring	☒ Yes	☐ No
314 CMR 5.03-04	Groundwater discharge permits	☒ Yes	☐ No
314 CMR 5.10(6) 314 CMR 5.19(11)	Groundwater discharge monitoring	☒ Yes	☐ No
257 CMR 2.00	Certification of wastewater treatment plant operators	☐ Yes	☒ No
314 CMR 7.00	Sewer Connection and Extension	☒ Yes	☐ No
314 CMR 7.03 360 CMR 10.00	Sewer discharge permits	☒ Yes	☐ No
314 CMR 12	Operation and maintenance of wastewater treatment plants	☐ Yes	☒ No
310CMR 32.00-32.80	Land application of sludge and septage	☐ Yes	☒ No
MGL c. 91 MGL c. 6A § 2-7 MGL c. 21A, § 4A MGL c. 131 § 40	**Wetlands and Waterways; Water withdrawals**		
310 CMR 9.03 – 9.07	Waterways licenses and permits	☐ Yes	☒ No
310 CMR 10.05(4)	Notices of Intent for work in wetland resource areas	☐ Yes	☒ No
310 CMR 10.02-10.05(6)	Orders of Conditions for alteration of wetland resource areas; recording of orders prior to commencing work	☐ Yes	☒ No
310 CMR 10.05(9)	Certificates of Compliance for work in wetland resource areas	☐ Yes	☒ No
310 CMR 10.08	Wetland enforcement orders	☐ Yes	☒ No
314 CMR 9.00	Discharge of dredge or fill	☐ Yes	☒ No
310 CMR 36.04	Water withdrawal registration	☐ Yes	☒ No
310 CMR 36.17	Water withdrawal permits	☐ Yes	☒ No
MGL c. 40, 111, 114, 140, 165	**Drinking Water Supply**		
310 CMR 22.04(1)	DEP approval for public water supplies	☒ Yes	☐ No
310 CMR 22.05- 310 CMR 22.09	Water supply monitoring	☒ Yes	☐ No
310 CMR 22.05- 310 CMR 22.09	Reporting of contaminants in water quality	☒ Yes	☐ No
310 CMR 22.11B 236 CMR 2.00-5.00	Certification of water supply operators	☐ Yes	☒ No
310 CMR 22.15	General reporting requirements for public water supplies	☐ Yes	☒ No
310 CMR 22.16	Public notification of water quality exceedances	☒ Yes	☐ No

Regulation	Subject	This Regulation Applies to this Facility	
310 CMR 22.17	Record keeping for public water supplies	☐ Yes	☒ No
310 CMR 22.21	DEP approval of wells and wellfields	☐ Yes	☒ No
310 CMR 22.21	Zone I wellhead protection	☐ Yes	☒ No
310 CMR 22.21(4)	Surveying of wellhead protection areas	☐ Yes	☒ No
310 CMR 22.22(2)	Cross connections: notification to DEP	☒ Yes	☐ No
310 CMR 22.22(5)	Backflow prevention devices	☒ Yes	☐ No
310 CMR 22.22(3)	Cross connection survey and program plan	☒ Yes	☐ No
310 CMR 22.24	Transfer of water supply lands	☐ Yes	☒ No
310 CMR 22.25	Abandonment of public water supply well	☐ Yes	☒ No
MGL c. 149 § 6A-G; MGL c. 111 § 2	**Asbestos**		
105 CMR 410.353	Maintenance of asbestos-containing materials	☒ Yes	☐ No
453 CMR 6.00	Licensing and protection of asbestos workers	☐ Yes	☒ No
310 CMR 7.09; 310 CMR 7.15	Demolition/renovation of asbestos containing materials	☐ Yes	☒ No
310 CMR 19.061	Disposal of asbestos waste	☐ Yes	☒ No
	Right to Know		
MGL c. 111F	Employee access to Material Safety Data Sheets	☒ Yes	☐ No
310 CMR 33.04	Filing of Material Safety Data Sheets with DEP	☒ Yes	☐ No
40 CFR 370.20(b)(2)	SARA: Tier I and Tier II reporting	☐ Yes	☒ No
40 CFR 355	Federal emergency planning and notification	☐ Yes	☒ No

Questions regarding environmental compliance that cannot be answered by the Pilot Facility Superintendent shall be directed to the MBTA EMS Team. This includes situations where contractors and on-site service providers provide guidance that may deviate from current environmental regulations. Examples would be advice that a permit currently in place was no longer required, or that compliance with a regulation could be waived. In all such situations, the approval of the MBTA EMS Team must be obtained.

This is particularly important in the case of verbal representations by regulators allowing deviations from regulatory requirements. The Pilot Facility Superintendent should ask for written confirmation from the regulators and approval by the MBTA EMS Team before any changes to existing compliance systems are implemented.

3.2 Proposed Changes in Environmental Requirements

The MBTA is committed to compliance with environmental requirements that are applicable to the environmental aspects of its activities. The MBTA EMS Team shall review and identify federal, state, and local environmental regulations and proposed changes to existing environmental regulations to determine applicability to the Pilot Facilities on an as needed basis, and ensure that the requirements are available to the appropriate individuals at the Pilot Facilities. At least annually the MBTA EMS Team will review the most current federal, state and local environmental requirements applicable to the Pilot Facilities and communicate relevant information to affected parties. Information sources for environmental requirements reviewed by the MBTA EMS Team may include, but not be limited to, the following:

§ Federal Register
§ Code of Federal Regulations
§ Executive Orders
§ Massachusetts Department of Environmental Protection Regulations
§ Regulatory training seminars/workshops
§ Legal, trade and business publications

Regulatory Environmental Information Resources

Source	Data	Location
Internet	Federal environmental laws, regulations and guidance	http://www.epa.gov/
Internet	State environmental laws, regulations and guidance	http://www.state.ma.us/dep
Paper Copy	Local environmental laws, regulations and guidance	MBTA Environmental Office

3.3 Communication with Regulatory Agencies

Communications with federal, state, and local agencies, such as the Environmental Protection Agency, Massachusetts Department of Environmental Protection and, Massachusetts Department of Public Health shall be coordinated through the MBTA EMS Team. The MBTA EMS Team, as a liaison to outside agencies, has the responsibility to maintain clear communication with environmental agencies and to provide appropriate technical input in decision-making and compliance strategies.

The MBTA EMS Team shall act on behalf of the Pilot Facilities with regulatory agencies regarding matters of environment compliance. This includes both written and verbal communications, scheduling visits of said agencies, and coordination of abatement violations issued by regulatory agencies to the Pilot Facilities.

All correspondence received from such regulatory agencies must be forwarded to the MBTA EMS Team. When representatives of regulatory agencies conduct unscheduled visits or inspections, the MBTA EMS Team must be notified. Responses to information requests, at the local, state, or federal levels shall be coordinated through the MBTA EMS Team. Invitations extended to local, state, or federal governmental officials to visit the Pilot Facilities shall be coordinated through the MBTA EMS Team. Pilot Facility employees who meet with the above referenced officials in an official MBTA capacity should coordinate their activities with the MBTA EMS Team. Pilot Facility employees who find it necessary to communicate directly with governmental agencies or as a normal course of business must keep the MBTA EMS Team informed.

Unforeseen incidents that result in a non-compliance with respect to the environment will be mitigated immediately to bring the situation into compliance. Regulatory agencies will be advised of the non-compliance as per the applicable regulatory requirement. The MBTA EMS Team will conduct regulatory compliance audits periodically in accordance with the EMS Auditing Procedure [ENV-PRO-016]

4.0 Assessment, Prevention, and Control

The MBTA Pilot EMS Manual requires that the Pilot Facilities assess periodically their operations, identify applicable regulations, permits and other requirements, determine whether they are in compliance, and develop compliance mechanisms in areas where they are lacking.

4.1 Ongoing Process of Assessing Operations

The MBTA EMS Team is responsible for the Identification of Environmental Aspects and Impacts at the Pilot Facilities in accordance with the EMS Auditing Procedure [ENV-PRO-016]. This procedure encompasses all activities, products and services that exist at the Pilot Facilities. The Pilot Facilities shall perform ongoing assessments of their operations for compliance with applicable environmental laws and MBTA procedures consistent with the objectives of the MBTA Pilot EMS Manual. This assessment shall include a review of those operations and waste steams where equipment malfunctions, equipment deterioration, operator error, or unplanned discharges or emissions could lead to: unauthorized releases of hazardous waste or pollutants to the environment; substantial endangerment of the environment or violations of environmental laws or regulations. The Pilot Facilities' ongoing process for assessing operations includes the following:

§ The MBTA EMS Team will identify and evaluate environmental impacts to the Pilot Facilities' activities from existing and proposed laws, regulations, and other requirements.

§ The MBTA EMS Team will ensure that appropriate monitoring and mitigation measures are put into place to minimize or eliminate negative environmental impacts.

§ The MBTA EMS Team will coordinate an ongoing assessment and evaluation of the Pilot Facilities operations.

4.1.1 Monitoring and Measurements

The Pilot Facilities have developed Standard Operating Procedures [SOPs], which outline specific monitoring and measurement of activities that have environmental impacts. Methods of monitoring and measurement employed at the Pilot Facilities include, but are not limited to, the following:

§ Laboratory analysis of suspected and confirmed contamination of various media (e.g., contaminated soil from a spill, wastewater discharged at an outfall measuring point);
§ Monitoring of certain air pollution control equipment;
§ Reports of hazardous material purchases and use;
§ Reports of hazardous waste disposal;
§ Reports of hazardous waste reduction;

- Energy use reports;
- Calibration measurements of key equipment;

4.2 Standard Operating Practices

The MBTA EMS Team has identified those operations and activities conducted at the Pilot Facilities that are associated with significant environmental aspects. Specific guidelines, plans, and instructions have been created for each of these operations and activities. The process for identifying operations and activities where standard operating practices (SOPs) are needed is as follows and also documented in SOP Procedure [ENV-PRO-018]:

- The MBTA EMS Team determines operations and activities that require written standard operating procedures (SOPs) to assure satisfactory control in preventing unauthorized environmental releases or violations.

- The MBTA EMS Team will establish and maintain documented SOPs to cover situations where incidents or non-conformances could lead to deviations from the MBTA Environmental Policy, Environmental Objectives, and Environmental Targets.

- The MBTA EMS Team develops procedures that:
  - (i) Assign responsibility and accountability to appropriate MBTA personnel for compliance with applicable environmental requirements.
  - (ii) Stipulate operating criteria in the procedures.
  - (iii) Communicate applicable job responsibilities and environmental requirements to MBTA personnel.
  - (iv) Ensure that contractors or On-Site Service Providers who are identified as persons that are responsible for compliance receive training and enter into appropriate written agreements that define those responsibilities in accordance with the MBTA' s Environmental Policy and the Pilot Facilities EMS Manual.

- The MBTA EMS Team will provide training on relevant procedures and requirements to employees, on-site service providers, and contractors.

The following is a list of relevant plans, SOPs, and guidance documents:

Pilot Facilities Plans, SOPs and Guidance Documents

Significant Aspect	Plans, SOPs and Guidance Documents
Hazardous Materials Handling [including hazardous waste and regulated recyclables]	§ Hazardous Waste Management SOP § Used Vehicle Battery Disposal SOP § Management of Compressed Gas Cylinders § Universal Waste Handling and Disposal SOP § Fluorescent Bulb Management SOP

Water Discharges	§ MBTA Vehicle Washing SOP § Inspection and Maintenance of Oil Water Separator SOP § Storm Water Pollution Prevention Plan § Floor Washing SOP § MADEP Industrial Floor Drain Guidance Document
Air Emissions	§ Vehicle Idling SOP § Gasoline Fuel Dispensing SOP § Inspection and Maintenance of Stage I & Stage II System SOP § Paint Booth Operation and Maintenance SOP
Petroleum Management	§ Management of Used Oil, Used Diesel and Used Gasoline Filters SOPs § MADEP Used Oil Filters Policy Statement § Management of Waste Oil SOP § Spill Prevention Control and Countermeasures Plan
Solid Waste Disposal	§ Temporary Storage of Solid Waste SOP § Handling and Disposal of Empty Drums SOP § MADEP Industrial Wiper Policy Guidance Document § MADEP Sorptive Mineral Guidance Document
Energy and Fuel Usage	§ Energy and Fuel Usage SOP

4.3 Conducting and Documenting Routine Self-Inspections

Self-inspections by the Pilot Facility Superintendent and Foreman are to be conducted periodically on processes or operations where equipment malfunctions, equipment deterioration, operator error or unplanned discharges or emissions could lead to: unauthorized releases of hazardous waste or pollutants to the environment; substantial endangerment of the environment; or violations of environmental laws or regulations. These required self-inspections are to verify operations are in compliance with environmental requirements. The frequency of inspections is to be scheduled appropriate to the risk and documented on an inspection log or other appropriate record in accordance with EMS Auditing Procedure [ENV-PRO-016]

Pilot Facilities Self Inspections

Significant Aspect	Self Inspection
Hazardous Materials Handling	The Pilot Facility Foreman shall conduct weekly inspections of all hazardous waste storage areas. Inspections shall be conducted using the Hazardous Waste Inspection Checklist located in the Appendix.

The Pilot Facility Foreman shall address any action items and will document the Hazardous Waste Inspection Checklist in accordance with Section 8.0. The inspections shall be performed on the same day every week.

Air Emissions

The Pilot Facility Foreman shall complete the Stage II Vapor Recovery System Weekly Visual Inspection Checklist. The weekly inspections shall be logged on the Stage II System Maintenance Log, even if there are no maintenance issues. If components need to be repaired or replaced the following shall occur:

§ Damaged nozzles, hoses or other components shall be taken Out of Service until repaired or replaced.

§ An "OUT OF ORDER" sign shall be placed on damaged components.

§ Damaged components shall be repaired or replaced within 14 days.

The Stage II Vapor Recovery System Weekly Visual Inspection Checklist and Stage II System Maintenance Log are located in the Appendix.

4.4 Ensuring Input of Environmental Requirements

The MBTA EMS Team is responsible for the integration of environmental requirements into all of its planning, design, and operation of ongoing, new, and/or changing buildings, processes, maintenance activities, equipment, and products to ensure that MBTA activities are conducted consistently with the environmental regulations. To ensure that information regarding environmental compliance is available to be integrated into strategic and operational planning, the MBTA EMS Team will conduct an assessment of ongoing, new and/or changing operations at the Pilot Facilities. This assessment shall include the following:

§ Documentation of waststreams, regulated materials, and regulated processes.

§ Identification of the laws and regulations applicable to the ongoing, new and/or changing operation.

§ Identification of permits and other authorizations required for the operation identified above.

§ Determination of whether the Facility is in compliance with applicable regulations and permits.

The above information will be integrated into strategic MBTA planning and budgeting processes and the Pilot Facilities EMS.

5.0 Environmental Incident and Noncompliance Investigations

The Pilot Facilities have developed a procedure for the identification and reporting of potential environmental violations and release incidents, Nonconformance & Corrective Action Procedure [ENV-PRO-014]. The first observer of a problem initiates the procedure and that defines the chain of incident reporting, i.e. the sequence of whom to notify and back-up personnel to contact when primary contacts are not available. Guidelines for notification of the MBTA Environmental Affairs Department are also incorporated in the procedures. The process is integrated with emergency reporting procedures for incidents, which may require immediate response and/or reporting. Notifications or communications on potential noncompliance areas that do not require immediate notification to a government agency, per regulatory requirements, shall be communicated to the Pilot Facility Supervisor or the Pilot Facility Foreman.

5.1 Internal and External Incident and Noncompliance Reporting

The Pilot Facility Environmental Incident and Noncompliance Investigation procedure addresses both internal reporting and responsibilities related to any required disclosures to external environmental regulatory agencies. Employees must report all Environmental Incidents they observe to the Pilot Facility Supervisor, or the Pilot Facility Foreman. If none of these employees are available, the incident must be reported to the Pilot Facility Superintendent. Initial contact must be made orally. This is to avoid the risk that critical situations are not addressed due to unanswered e-mail or voice-mail messages, or due to submitted hardcopy reports being overlooked.

After reporting the Environmental Incident, the observer may be requested to complete the Environmental Incident Report (refer to Appendix) or the Pilot Facility Supervisor or Foreman may complete this form. In either case, it will be the responsibility of the Pilot Facility Superintendent to ensure that the form has been properly completed. All Environmental Incidents must be reported to the MBTA Environmental Affairs Department. It is the responsibility of the Pilot Facility Superintendent to make this report. It will be the responsibility of the Pilot Facility Superintendent working with the MBTA Environmental Affairs Department, to determine if regulatory entities must be contacted.

In all cases, the Centralized Maintenance Control Group and the Operations Control Center (OCC) shall maintain an Environmental Incident record. Pilot Facility Supervisors, Foremen or others directly responsible for operations where spills or releases may require agency notification will be trained in recognizing these types of events, and are directed to contact Pilot Facility Superintendent in the case that the Pilot Facility Supervisor or Pilot Facility Foreman is unreachable.

5.2 Investigation and Corrective Actions

The Pilot Facilities shall promptly investigate and address potential or actual regulatory violations related to environmental requirements. Potential violations may also be determined during Regulatory Agency inspections. Once a situation is identified a root-cause analysis technique shall be used in investigations to help assure that corrective actions are taken on the correct cause. The practice may vary with the critical nature of the problem (i.e., from simple discussion and agreement up to formal problem analysis reports and action plans). Corrective actions must limit or prevent the future occurrence of the problem. Corrective action target dates will reflect the criticality of the problem and be evaluated for appropriateness along with the proposed actions. Unless directed otherwise by the MBTA Environmental Affairs Department, the Pilot Facility Supervisor and/or Foreman should address the incident as follows:

1. Investigate the incident.
2. Determine root causes.
3. Assess the potential severity.
4. Working with the support personnel, develop the needed preventive or corrective actions.
5. Document decisions, actions, and accomplishments on the Environmental Incident Report form [ENV-FRM-005]
6. Communicate with other MBTA Facilities to prevent recurrence.

5.3 Follow-Up System

The Pilot Facilities shall implement a follow-up system that will be used to verify that corrective and preventive actions were taken and were effective, and to ensure that the initiator of the finding is advised as to the disposition of the issue. The follow-up shall ensure that delinquencies in the completion of corrective actions are identified, reported and addressed. The Pilot Facility Supervisor and/or Superintendent will be responsible for the completion and retention of all incident reporting documentation, and will be accountable for any follow-up to ensure that corrective actions are in place and operating. This follow-up shall occur as soon as possible after the completion of the corrective actions and must be documented on Corrective Action Report [ENV-RPT-001]

The Pilot Facility Supervisor and/or Superintendent will also be responsible for reporting any defects in the implementation of the corrective actions to MBTA Environmental Affairs Department until all items are properly resolved. A final report consolidating the status of environmental incidences and actions taken to correct them will be tracked by the Pilot Facility Superintendent and briefed at the periodic MBTA EMS Team meetings along with the status of open findings.

After appropriate corrective actions have been determined, the Pilot Facility Supervisor and/or Foreman must report the disposition of the matter to the employee who originally reported the incident. This report must, at a minimum, be in writing. This advisement may range from a simple follow-up visit by MBTA EMS Team at some stated period after the scheduled corrective action to formal posting of investigation activities.

6.0 Environmental Training, Awareness, and Competence

Successful implementation of the MBTA EMS requires that MBTA employees at all levels are made aware of the existence and purpose of the MBTA EMS and their role in the achievement of improved environmental performance. Environmental training and competency as a result of this training will ensure that the goals of the environmental policy and objectives are achieved. Various types of training that are required to implement, review and improve the MBTA EMS include:

- Training of MBTA senior management to increase awareness of the strategic importance of environmental management within the MBTA;
- Training of all employees to increase general environmental awareness regarding daily operations;
- Specialty training to enhance the skills of all employees, particularly those whose responsibilities could impact the environment; and
- Compliance training for those employees whose responsibilities could affect compliance.

6.1 Specific Training and Documentation

The MBTA EMS Team and the Pilot Facility shall identify environmental training needs at Pilot Facilities in accordance with Training Awareness Procedure [ENV-PRO-007]. Training will be provided using seminars, videos, awareness programs and/or workshops. The Pilot Facility Superintendent will review the training needs with respect to the environmental requirements and produce an annual training outline to be approved by the MBTA EMS Team. The MBTA EMS Team will monitor implementation. The Pilot Facility Superintendent will provide confirmation of successful completion of the training to the MBTA EMS Team.

The environmental training matrix will be updated to reflect current MBTA needs in accordance with the MBTA EMS. At a minimum the matrix will detail the type and frequency of training required by the Pilot Facility employees.

Environmental Training Matrix

TRAINING	TYPE	EMPLOYEES COVERED	FREQUENCY
Best Management Practice EMS/Environmental Awareness	In-house, classroom	**All MBTA employees with responsibilities under the MBTA EMS shall be trained on the materials and procedures contained within the Facility EMS Manual. Topics covered during this EMS/Environmental Awareness Training include Hazardous Waste, Universal Waste, Recycling Options, Asbestos, Floor Drains, Underground Storage Tanks, MCP, Emergency Response, Self-Auditing, Air Permitting, Stage II Vapor Recovery and Water Protection.** JOB TITLE: General Manager, Asst. General Manager, Director, Facility Manager, Environmental Counsel, Superintendent, Supervisor, Foreman, Mechanic, Carpenter, Painter, Pipefitter, Sheetmetal Worker, Upholsterer, Wireperson, Engineer, Machinist, Fueler, Cleaner, Repairer, Driver, Watchman, Engineer, Electrical Worker, Administration	**Initial training to a competency level with refresher training as necessary.**
M.G.L. 111F Right-To-Know Training	In-house, classroom	**MBTA employees who are or may be exposed to toxic or hazardous substances at the workplace shall be provided training on employee rights, MSDS, specific substances stored and/or handled at the workplace, explanation of toxicity, labeling, and instructions on the personal protective equipment [PPE] to be used when handling hazardous substances.** JOB TITLE: General Manager, Asst. General Manager, Director, Facility Manager, Environmental Counsel, Superintendent, Supervisor, Foreman, Mechanic, Carpenter, Painter, Pipefitter, Sheetmetal Worker, Upholsterer, Wireperson, Engineer, Machinist, Fueler, Cleaner, Repairer, Driver, Watchman, Engineer, Electrical Worker, Administration	**Initial training to a competency level with refresher training as necessary.**
MADEP 310 CMR 30.1035 Universal Waste	In-house, classroom	**MBTA employees having responsibility for handling or managing universal waste shall be informed of the proper handling and emergency procedures appropriate to the types of universal waste handled at the facility.** JOB TITLE: Director, Facility Manager, Environmental Counsel, Superintendent, Supervisor, Foreman, Mechanic, Carpenter, Painter, Machinist, Repairer	**Initial training to a competency level with refresher training as necessary.**

TRAINING	TYPE	EMPLOYEES COVERED	FREQUENCY
EPA 40 CFR Part 112 Spill Prevention, Control and Countermeasures [SPCC] Training	In-house, classroom, and field	MBTA employees who have a role in the SPCC Plan for the facility shall be trained in the use of the SPCC, applicable pollution control laws and the operation and maintenance of equipment to prevent the discharges of oil. JOB TITLE: Director, Facility Manager, Environmental Counsel, Superintendent, Supervisor, Foreman, Mechanic, Carpenter, Painter, Machinist, Fueler, Cleaner, Repairer	Initial training to a competency level with annual refresher training.
29 CFR 1910.120 Hazardous Waste Operations and Emergency Response 8-Hour First Responder Operations Level	In-house, classroom and field	MBTA employees who are "Emergency Responders" under MBTA's Emergency Response Spill Plan who respond to releases of substances in a defensive manner (i.e., diking or berming a spill) as part of the initial response shall be trained to demonstrate competency in accordance with the 29 CFR 1910.120. JOB TITLE: Director, Facility Manager, Environmental Counsel, Superintendent, Supervisor, Foreman, Mechanic, Carpenter, Painter, Machinist, Fueler, Cleaner, Repairer	8-hours of initial training to a competency level with an 8-hour annual refresher training.
MADEP 310 CMR 30.0000 Hazardous Waste Management	In-house, classroom	MBTA employees having responsibility for handling/managing hazardous waste shall be properly trained so they know how to perform their duties and so that hazardous waste handling practices and emergency procedures are performed properly and in compliance with all applicable requirements. JOB TITLE: Director, Facility Manager, Environmental Counsel, Superintendent, Supervisor, Foreman, Mechanic, Carpenter, Painter, Pipefitter, Sheetmetal Worker, Upholsterer, Wireperson, Engineer, Machinist, Fueler, Cleaner, Repairer, Engineer, Electrical Worker, Administration	Initial training to a competency level with annual refresher training.
Best Management Practice Emergency Response Spill Plan	In-house, classroom	MBTA employees who are "Emergency Responders" under MBTA's Emergency Response Spill Plan who respond to releases of substances in a defensive manner (i.e., diking or berming a spill) as part of the initial response shall be trained to demonstrate competency in accordance with the 29 CFR 1910.120. JOB TITLE: General Manager, Asst. General Manager, Director, Facility Manager, Environmental Counsel, Superintendent, Supervisor, Foreman, Mechanic, Carpenter, Painter, Machinist, Fueler, Cleaner, Repairer, Engineer, Electrical Worker, Administration	8-hours of initial training to a competency level with an 8-hour annual refresher training.

TRAINING	TYPE	EMPLOYEES COVERED	FREQUENCY
DOT 49 CFR Part 172 MADEP 310 CMR 30.409 General Awareness, Manifest, and Safety Training Program	In-house, classroom	MBTA employees responsible for shipping, packaging, labeling and/or manifesting a RCRA hazardous waste and/or employees who offer a DOT hazardous materials to a private transporter shall be trained on how to recognize and identify hazardous materials, emergency response information, measures for protection form the hazards associated with hazardous materials, and methods and procedures for avoiding accidents. JOB TITLE: Superintendent, Supervisor, Foreman, Mechanic, Carpenter, Painter, Administration	Initial training to a competency level with refresher training every 3 years.
MADEP 310 CMR 7.24 Stage II Vapor Recovery	In-house, classroom, and field	MBTA employees who operate and/or perform weekly inspections must be trained to inspect equipment including, but not limited to, nozzle boots and splash/vapor guards, hoses, hose retractors, coaxial adapters, dry breaks, fill caps, vapor recovery caps, spill containment boxes and drain valves. JOB TITLE: Facility Manager, Superintendent, Supervisor, Foreman, Fueler	Initial training to a competency level with refresher training as necessary.

In order to ensure that the individual in a particular position has received the appropriate training, records of who has received environmental training will be maintained on People Soft. These individual training records will be kept as part of the employee' s personnel file.

6.2 MBTA Management and Employee Awareness

The MBTA will promote awareness of the MBTA EMS and its function to all employees particularly with respect to the importance of achieving and maintaining environmental compliance. This will be achieved through an information session to raise the awareness and general importance of environmental issues associated with activities and operations carried out at the MBTA. All employees will be made aware of the progress of the MBTA EMS and of areas that require improvement on a regular basis. This will be accomplished through use of newsletters, notice boards, e-mails, etc.

6.3 Competency

The MBTA EMS ensures that MBTA employees are provided with the knowledge and skills to competently fulfill their EMS and other environmental responsibilities. The MBTA EMS Team annually assesses all positions under the MBTA EMS to determine the associated training requirements for these positions. The MBTA EMS Team coordinates such a review with the Pilot Facility Superintendent. The Pilot Facility Superintendent reports to the MBTA EMS Team annually with regard to the training requirements for personnel under his supervision and the status of training for those individuals. Competency will be determined through testing of individuals on their respective training subjects and will take one or more of the following forms: written, oral, practical or on-the-job.

7.0 Environmental Planning and Organizational Decision-Making

The MBTA's plans, policies, directives, and measurement of key compliance and pollution prevention indicators are all designed to achieve an effective EMS. Prevention of pollution practices is implemented in acquisitions, operations, and maintenance programs. The overall goal is to continually improve and work toward zero discharge of pollutants (from any media) into the environment through instilling prevention values and a hierarchy of methods.

7.1 Integration of Environmental Planning

The MBTA will integrate environmental considerations into all of its planning processes to ensure that MBTA activities are conducted consistently with the MBTA's Environmental Policy. To ensure that appropriate information is available to be integrated into strategic and operational planning and operations processes the MBTA EMS Team will:

- Coordinate the identification and evaluation of the MBTA's aspects and impacts.

- Identify and evaluating environmental impacts to the MBTA's activities from existing and proposed laws, regulations, and other requirements.

- Coordinate the setting of objectives and targets, as well as standards to measure performance against the targets.

- Provide information to managers for integration into planning and budgeting processes.

The above information will be integrated into strategic MBTA planning and budgeting processes. The commitment of financial resources required to maintain and achieve environmental compliance will be incorporated into the annual planning, programming, and budget appropriation process. Within the strategic MBTA planning and budgeting processes, the MBTA General Manager shall allocate the resources necessary to implement the MBTA Environmental Policy. The MBTA General Manager shall delegate the appropriate authority within the MBTA organizational structure to ensure implementation.

As part of the MBTA planning and budgeting responsibility, the MBTA EMS Team is responsible for integrating the MBTA environmental objectives, targets, and considerations into the functions for which they have responsibility. The following steps show the MBTA's environmental planning and decision-making process:

- The MBTA EMS Team will ensure that all projects are assessed for potential environmental effects.

§ For any project that has potentially negative impacts on the environment, the MBTA EMS Team will ensure that appropriate monitoring and mitigation measures are put into place to minimize or eliminate these impacts. This will occur at the proposal stage and before irrevocable decisions are made.

§ The MBTA will not release funds until it is satisfied with the results of the environmental assessment and with the proposed mitigation measures.

§ The MBTA will undertake strategic environmental assessments of its plans, programs and policies in accordance with the MBTA EMS.

7.2 Goals, Objectives and Action Plans

The MBTA EMS Team is responsible for the Identification of Environmental Aspects and Impacts in accordance with Aspects & Impacts Procedure [ENV-PRO-002]. This procedure encompasses all activities, products and services that exist at the Pilot Facilities. All of the Pilot Facility’s activities, products and/or services shall be included within the environmental aspects review framework. Environmental aspects will be determined by analyzing the inputs and outputs relating to current and past activities, products and services. The cause and effect relationship between environmental aspects and impacts means that once aspects have been identified, the impacts that result from these aspects can be determined.

The Pilot Facilities shall implement the Aspects & Impacts Procedure [ENV-PRO-002] to identify the environmental aspects of its activities, products or services that it can control and over which it can be expected to have an influence, in order to determine those, which have or can have significant impacts on the environment. All environmental aspects that are regulated shall be treated as significant and shall be managed as part of the Pilot Facility’s EMS. All other non-regulated potential environmental impacts shall be evaluated to determine their potential significance. The selection of categories of activities, products and services will be used in determining those aspects most likely to have a significant impact. The initial categories are defined as the following:

§ Water Discharges
[Train Wash-MWRA]

§ Air Emissions
[Bus Idling-CFC’s R22]

§ Hazardous Materials Handling
[Waste Oil-Waste Paint Solvents-Chemicals-Batteries-Soaps-Florescent Bulbs-Thermostats]

§ Petroleum Management
[Oil Filters-Virgin Oil Storage]

The Pilot Facilities shall ensure that the aspects related to these significant impacts are considered in setting environmental objectives. The Pilot Facilities have measurable targets tracked by the MBTA EMS Team. Targets are designed to drive proactive behavior to lessen the environmental impact to the Pilot Facility and surrounding community.

Pilot Facilities' Objectives & Targets

Significant Aspect	Objectives	Targets
Hazardous Materials Handling	Improve the management of petroleum products and hazardous materials.	§ Identify personnel to be trained [9/1/04] § Identify and hire training consultant [9/1/04] § Develop the training module [9/15/04] § Determine training schedule [9/1/04] § Conduct Subway employee training [10/30/04] § Conduct Bus employee training [11/30/04] § Train 100% of affected employees [12/05]
Vehicle Washing	Ensure compliance with vehicle water discharge standards.	§ Develop baseline and obtain last quarterly sampling results [12/1/05] § Obtain schematics of wash systems [12/1/05] § Evaluate baseline data to determine patterns of discharges [2/1/05] § Establish standard operating procedures [2/20/05] § Train employees on standard operating procedures [3/30/05] § Evaluate and audit vehicle washes after one year [2/06]
Air Emissions	Quantify and reduce yearly usage of CFCs.	§ Establish baseline by determining yearly usage [9/05] § Reduce usage of aerosol sprays [4/05] § Initiate engineering study to modify existing systems for usage of non-CFC refrigerant replacement [4/05]
Water Discharge	Create water discharge permit tracking database.	§ Confirm location of all industrial and stormwater discharges [12/1/04] § Confirm permit, Stormwater Pollution Prevention Plan (SWPPP) and Spill Prevention Control and Countermeasures Plan (SPCC) for each facility [12/30/04] § Enter facility information [12/30/04] § Conduct survey of industrial and stormwater discharges [4/1/05] § Track and evaluate all permits, SWPPP and SPCC Plans for one year, beginning [1/05]

Performance against the objectives and targets will be measured and periodically reported to the MBTA EMS Team. A continual, up-front, proactive review of environmental aspects and potential impacts will be conducted to maintain environmental compliance and control the environmental performance of the Pilot Facilities in accordance with the Objects & Targets Procedure [ENV-PRO-003].

8.0 Maintenance of Records and Documentation

The MBTA EMS is documented in the Pilot EMS Manual, which is maintained in both electronic and hard copy. The Pilot EMS Manual describes the core elements of the EMS and their interrelationships. It is not the purpose of the EMS Manual to fully document all of the environmental controls in the EMS. The purpose of the Pilot EMS Manual is to describe briefly the basic components of the EMS and to provide direction to the relevant documentation (such as plans, SOPs, and instructions).

The MBTA EMS Team will review the Pilot EMS Manual once a year. The Pilot EMS Manual is to be reviewed by MBTA employees and used for information purposes as well as practical applications.

8.1 Record Maintenance

Records are maintained in all areas of environmental responsibility to demonstrate compliance with regulations and effective operations. Each MBTA facility establishes and maintains documentation for the identification, maintenance, and handling of all records pertinent to their area in accordance with Records Maintenance Procedure [ENV-PRO-015]. Records include:

- Environmental regulations
- Material safety data sheets
- Inspections logs
- Maintenance logs
- Hazardous waste manifests
- Land Disposal Restriction forms
- Hazardous material inventories
- Hazardous Materials Bill of Ladings
- Recycling logs and inventories
- Vehicle emission logs
- Vehicle Idling Forms
- Executive Orders
- Permits
- Management plans (i.e., SPCC Plan, Emergency Response Plans, Contingency Plans)
- Training
- Audits and reviews

Document control is achieved through use of the MBTA EMS Portal to distribute relevant and applicable regulations, management plans, and SOPs and in accordance with Document Control Procedure [ENV-PRO-010]. MBTA Pilot Facilities use this web page to provide their facility the most current and up-to-date information and version of controlled documents.

In this fashion, the MBTA is more able to prevent obsolete versions of controlled documents from being used and to save paper and manpower hours by not making standard distribution of hardcopy controlled documents. Master copies of the actual documents are maintained in the Assistant General Manager for Environmental Affairs' office.

The MBTA Document Control Procedure [ENV-PRO-010] includes the following.

- Environmental documents are maintained at the MBTA Environmental Management Office. This designated location is the Assistant General Manager for Environmental Affairs' office. Electronic documentation is also available on the MBTA EMS Portal. Certain documents are read-only and can only be altered by the MBTA EMS Team.

- Environmental documents are periodically reviewed, revised whenever deemed necessary, and approved by authorized personnel following each revision.

- Copies of those environmental documents needed at locations other than the Assistant General Manager for Environmental Affairs' office are maintained at those locations.

- Upon revision of environmental documents, obsolete versions are removed and replaced with current versions.

- All obsolete versions that are retained for filing purposes are duly marked as obsolete.

- Documents, other than environmental documents, that contain procedures with environmental aspects are maintained at designated locations within those Facilities.

The retention times for each record are established in accordance with both regulatory minimum requirements and MBTA policy. Environmental records generated as a requirement of regulations have retention times set at least the minimum time specified by the regulation. Records that are deemed useful for protecting future liability have commensurately longer retention times than those specified by regulation. The determination of retention times is made by the MBTA EMS Team and documented on the Records Retention Log [ENV-REC-001].

8.2 Data Management Systems

The MBTA EMS Team will establish and maintain a central document control and filing system for waste tracking, environmental data, and hazardous waste determinations. The MBTA will maintain the following for each Pilot Facility:

- Hazardous materials inventory
- Material safety data sheets (MSDS) on all identified hazardous materials
- Regulated recyclable materials inventory and log
- Recyclable materials inventory and Log

- Hazardous waste inventory
- Waste characterization profiles for all identified wastestreams
- Laboratory analysis
- Facility inspections
- Hazardous waste shipments

In addition original copies of Hazardous Waste Manifests are maintained in the Pilot Facility Superintendent’s office in accordance with the following:

- The Pilot Facility Superintendent or authorized representative will sign hazardous waste manifests.

- Records of all hazardous waste manifests will be kept on site for a minimum of three years from the TSDF returned copy date. Manifests beyond this date may be stored on site or stored in archives for a minimum of thirty years to serve as an accurate accounting of material shipped to potential CERCLA (Superfund) Sites.

- Land Disposal Restriction (LDR’s) notices, Waste Profile Sheets, and Exception Reports will be kept with the associated manifest. Note that LDR’s are to be attached to the manifest, whereas profiles are kept in a single section of the same calendar year manifest binder. All of these documents are to be kept with the manifest for the time period indicated herein.

- Biennial Reports will be kept for a minimum of three years from the established submittal date. Biennial Reports will be kept with manifest archives for the established time period [thirty (30) years].

- Waste analyses and laboratory analytical reports will be kept with the hazardous waste manifests for the established time period [three (3) years on site, thirty (30) years archived]. Note that laboratory analytical reports may be kept with hazardous waste profiles, in contract files, permitting files, or in individually designated files depending on the nature of the contract and/or waste materials.

- Note that the periods of retention referred to in this procedure are automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the US EPA Administrator or by the Massachusetts Department of Environmental Protection.

9.0 Pollution Prevention Program

The Pilot Facilities shall implement a Pollution Prevention Program that encourages the prevention, reduction, recycling, reuse, and minimization of waste and emissions and the substitution of environmentally preferable materials. The Pilot Facilities' pollution prevention actions, including the use of substitute materials, shall be documented, tracked, and evaluated for accuracy by the Superintendent of the Pilot Facility. The Pilot Facilities' Pollution Prevention Program is driven by the MBTA EMS and is a comprehensive initiative to reduce and prevent pollution at the source. The Pilot Facilities are committed to an active policy of protecting the environmental through the following efforts:

- The Pilot Facilities shall make every effort to reduce the volume and toxicity of waste generated.
- The Pilot Facilities shall periodically analyze how each waste is generated and take steps to minimize these wastes to the greatest extent possible.
- Whenever new operations are planned, the type and amount of waste and how to minimize it shall be an integral part of design, beginning with the initial phases.
- The Pilot Facilities shall continuously identify opportunities to reduce or eliminate pollution through source reduction and other prevention methods.

The MBTA EMS Team has overall responsibility for the development and implementation of the Pollution Prevention Program in accordance with Structure & Responsibility Procedure [ENV-PRO-006]. The MBTA EMS Team will coordinate the development of organizational policies that support and improve pollution prevention activities within the MBTA. The MBTA EMS Team's role in promoting environmental compliance for the MBTA through the application of the Pollution Prevention Program includes:

- Reviewing Pollution Prevention-related local, state and federal requirements;
- Preparing guidance documents, including Pollution Prevention options;
- Working with the Pilot Facilities to develop compliance strategies;
- Tracking the MBTA's progress on meeting Pollution Prevention goals;
- Documenting and evaluating performance of Pollution Prevention initiatives; and
- Integrating Pollution Prevention into compliance programs and compliance auditing.

The Pilot Facility Superintendent reports to the MBTA EMS Team and presents, at least annually, the Pilot Facility's pollution prevention progress and program. The Pilot Facilities will use the Pollution Prevention Program an approach to maintain compliance with environmental laws and regulations. The following initiatives frame the MBTA Pollution Prevention Program:

Pollution Prevention Program Initiatives

Media	Initiative
Fluorescent Bulbs	Implementation of Universal Waste segregation and collection for fluorescent bulbs. Light bulbs containing mercury will be managed as Universal Waste for recycling in accordance with Massachusetts DEP guidelines. All florescent bulbs and other bulbs that contain mercury will be collected for recycling as universal wastes. The MBTA is in the process of converting to low-mercury bulbs.
Solid Waste	Recycling of solid waste is a direct pollution prevention effort, aimed at reducing the overall volume of waste disposed of as solid waste. Specific Programs currently established: § Corrugated Cardboard § Mixed Paper § Plastics § Toner Cartridges § Returnable beverage bottles and cans § Scrap Metal
Hazardous Waste Minimization	The following methods shall be used to minimize hazardous waste: § Substitute less toxic or less hazardous materials whenever practical. For example, the use of chlorinated solvents is discouraged if less hazardous solvents or cleaning agents are available for the same operation. § When purchasing raw materials, consideration shall be given to whether the materials will be hazardous or non-hazardous waste when it becomes unusable. The cost for subsequent waste disposal should be considered in addition to the initial purchase price. § To the greatest extent practical, spent solvents shall be recycled by service firms that reclaim the solvent off-site. § For each waste produced, a determination shall be made whether it contains recoverable or reusable material and whether recycling facilities are available within a reasonable distance. Examples are metal shavings and other scrap metals, used solvents, and solid wastes containing recoverable metals or other materials. § Used oil shall be recycled or reclaimed. § In all cases, non-hazardous wastes shall not be mixed with hazardous waste.
Batteries	Implementation of Universal Waste segregation and collection for nickel-cadmium batteries. Nickel-cadmium batteries will be managed as Universal Waste for recycling in accordance with Massachusetts DEP guidelines. All batteries containing lead will be separately collected for shipment as a Regulated Recyclable Material.
Air Pollution	The following methods shall be used to minimize air pollution:

- Limit bus idling to not more than five minutes.
- A bus may idle longer during vehicle servicing.
  The Pilot Facilities shall maintain bus idling logs for vehicle servicing activities.
- Perform fleet inspections to ensure vehicle emission compliance.
- Properly maintain Stage I and Stage II Vapor Recovery Systems for gasoline fuel dispensing operations.

Wastewater Generation

Vehicle washing shall be conducted in areas designed to collect and hold the wash and rinse water or effluent generated. Wash water effluent should be recycled, collected, or treated prior to discharge to the sanitary sewer system. Wash water will not be discharged into the stormwater system.

Stormwater

The Pilot Facilities shall conserve and protect storm water runoff from contamination through the maintenance and implementation of a Storm Water Pollution Prevention Plan.

The Pilot Facilities shall continuously identify opportunities to reduce or eliminate pollution through source reduction and other prevention methods in accordance with the following SOPs:

ENV-SOP-04-05-001	Universal Waste -Fluorescent Light Bulbs
ENV-SOP-05-05-002	Vehicle Wash & Treatment Systems
ENV-SOP-04-05-003	Inspection & Maintenance of Catch Basins
ENV-SOP-04-05-004	Empty Drum Handling & Disposal
ENV-SOP-04-05-005	Universal Waste – Mercury Devices
ENV-SOP-04-05-006	Refrigerants – Handling & Disposal
ENV-SOP-04-05-007	Vehicle Wash Soaps – Handling & Disposal
ENV-SOP-04-05-008	Oil Water Separators – Inspection & Maintenance
ENV-SOP-04-05-009	Stage II Vapor Recovery System Inspection
ENV-SOP-04-05-010	Temporary Storage of Solid Waste
ENV-SOP-04-05-011	Compressed Gas Cylinders – Handling & Disposal
ENV-SOP-04-05-012	Used Filters – Handling & Disposal
ENV-SOP-04-05-013	Hazardous Materials Management
ENV-SOP-04-05-014	Hazardous Waste Management
ENV-SOP-04-05-015	Material Safety Data Sheets
ENV-SOP-04-05-016	Used Batteries – Handling & Disposal
ENV-SOP-04-05-017	Vehicle Idling
ENV-SOP-04-05-018	Floor Washing

10.0 Continuing Program Evaluation and Improvement

The MBTA will periodically assess the implementation of, and conformance with, the MBTA EMS to ensure that management processes are in place and working effectively. This will involve both internal self-assessments and appropriate external assessments. The MBTA will use that information to improve our performance and processes.

10.1 Periodic Evaluation of the EMS

Periodic management reviews of the MBTA EMS shall be conducted to ensure the effectiveness of the system, progress towards EMS targets, and to identify and implement system improvements in accordance with EMS Auditing Procedure [ENV-PRO-016]. An evaluation of the MBTA EMS by the MBTA EMS Team and the Pilot Facility Superintendent shall occur at least annually. More frequent evaluations of specific issues may be conducted depending on the environmental importance of the activity, and previous evaluation results. Evaluations may be performed by the MBTA EMS Team, or by independent personnel who are retained to conduct the evaluation. The evaluation shall look for program improvement opportunities.

Viable program improvement opportunities shall be incorporated into the MBTA EMS (subject, as necessary, to review and approval by the MBTA General Manager or authorized designee). If needed, action plans for the change(s) shall be developed. These changes to the EMS shall be disseminated to affected personnel, including employees, contractors and on-site service providers.

Pilot Facilities EMS Evaluation Procedures

TOPIC	PROCEDURE	FREQUENCY
Environmental Incidents	The MBTA EMS Team will maintain a tracking system of all environmental incidents. The status of environmental incidences and actions taken to correct them will be tracked and briefed along with the status of open findings.	Annually
Noncompliance Investigations	The MBTA EMS Team will review results of noncompliance investigations where actions were identified and carried out to ensure environmental compliance. The MBTA EMS Team will monitor the actions taken by the Pilot Facilities and initiate actions to prevent or correct noncompliance.	Annually
Environmental Requirements	The MBTA EMS Team will review applicable legislative changes. The MBTA EMS Team will consider changes to legislation, which warrant consideration to change the aspects, targets, controls, procedures, documents and training.	Annually
Environmental Training	The MBTA EMS Team will review the status of the EMS Environmental Training Program.	Annually

TOPIC	PROCEDURE	FREQUENCY
Objectives and Targets	The MBTA EMS Team will report on the status of Objectives and Targets and coordinate the annual setting of Objectives and Targets.	Annually
EMS Internal Audit	The MBTA EMS Team will ensure an annual Internal EMS Audit is performed and will report on the status of the action items of the audit.	Annually
Aspects	The MBTA EMS Team will coordinate the annual review and assessment of the aspect list with appropriate MBTA personnel.	Annually
EMS Manual	The MBTA EMS Team will coordinate a review of the EMS Manual. The Team will review its continuing suitability, and effectiveness.	Annually

Results of evaluation will be recorded on the EMS Evaluation Review Form located in the Appendix.

10.2 Ongoing Evaluation of Compliance

The Pilot Facilities shall participate in environmental compliance audits conducted by the MBTA EMS Team or by independent personnel who are retained to conduct the audits. The Pilot Facilities shall conduct systematic audits to ensure compliance with defined policies, standards and procedures. The environmental compliance audits shall be planned and scheduled by the MBTA EMS Team. The MBTA EMS Team shall maintain an effective control process to ensure that the findings of audits are recorded, prioritized, remediated and closed out. Key lessons shall then be disseminated throughout the MBTA. Required corrective actions shall be established and monitored in accordance with the requirements outlined in Section 5.0.

The Pilot Facilities' program for ongoing evaluation of compliance with environmental requirements includes the following:

- Periodic Inspections
- Environmental Compliance Audit
- Annual EMS Evaluation

The MBTA EMS Team shall maintain an effective control process to ensure that the findings of inspections, audits, and evaluations are recorded, prioritized, remediated and closed out. Key lessons shall then be disseminated throughout the MBTA. Required corrective actions shall be established and monitored in accordance with the requirements outlined in Section 5.0.

10.2.1 Periodic Inspections

Pilot Facility Supervisors and/or Foremen will conduct periodic internal evaluations of compliance requirements applicable to their facility in accordance with the following SOPs:

ENV-SOP-04-05-001	Universal Waste -Fluorescent Light Bulbs
ENV-SOP-05-05-002	Vehicle Wash & Treatment Systems
ENV-SOP-04-05-003	Inspection & Maintenance of Catch Basins
ENV-SOP-04-05-004	Empty Drum Handling & Disposal
ENV-SOP-04-05-005	Universal Waste – Mercury Devices
ENV-SOP-04-05-006	Refrigerants – Handling & Disposal
ENV-SOP-04-05-007	Vehicle Wash Soaps – Handling & Disposal
ENV-SOP-04-05-008	Oil Water Separators – Inspection & Maintenance
ENV-SOP-04-05-009	Stage II Vapor Recovery System Inspection
ENV-SOP-04-05-010	Temporary Storage of Solid Waste
ENV-SOP-04-05-011	Compressed Gas Cylinders – Handling & Disposal
ENV-SOP-04-05-012	Used Filters – Handling & Disposal
ENV-SOP-04-05-013	Hazardous Materials Management
ENV-SOP-04-05-014	Hazardous Waste Management
ENV-SOP-04-05-015	Material Safety Data Sheets
ENV-SOP-04-05-016	Used Batteries – Handling & Disposal
ENV-SOP-04-05-017	Vehicle Idling
ENV-SOP-04-05-018	Floor Washing

In addition the following periodic inspections shall be conducted:

Hazardous Waste Storage Areas
The Pilot Facility Supervisor and/or Foreman shall conduct weekly inspections of all hazardous waste storage areas. Inspections shall be conducted using the Hazardous Waste Inspection Checklist [ENV-FRM-006]. The Pilot Facility Supervisor and/or Foreman shall address any action items and will document the Hazardous Waste Inspection Checklist in accordance with Section 8.0. The inspections shall be performed on the same day every week.

Stage II Vapor Recovery System
The Pilot Facility Supervisor and/or Foreman shall complete the Stage II Vapor Recovery System Weekly Visual Inspection Checklist [ENV-REC-003]. The weekly inspections shall be logged on the Stage II System Maintenance Log [ENV-LOG-001], even if there are no maintenance issues. If components need to be repaired or replaced the following shall occur:

- Damaged nozzles, hoses or other components shall be taken Out of Service until repaired or replaced.
- An “OUT OF ORDER” sign shall be placed on damaged components.

§ Damaged components shall be repaired or replaced within 14 days.

10.2.2 Environmental Compliance Audit

The Pilot Facilities shall conduct an Environmental Compliance Audit every five years as part of the MBTA's Ongoing Evaluation of Compliance Program in accordance with EMS Auditing Procedure [ENV-PRO-016]. Conducted under the MBTA EMS, the Environmental Compliance Audit is the primary way the MBTA ensures environmental compliance. The focus of the Environmental Compliance Audit is on identifying and correcting areas of non-compliance. The Environmental Compliance Audit shall be conducted under the direction of the MBTA EMS Department as follows:

§ Meeting with Pilot Facility Superintendent to explain purpose of audit and discuss audit plan.
§ Pilot Facility inspection; auditors indicate areas of non-compliance.
§ Post audit meeting with the Pilot Facility Superintendent to discuss audit results, areas of non-compliance and follow-up requirements.

In addition, the Pilot Facilities shall perform an annual compliance test conducted by an outside contractor. The results must be logged on the Compliance Testing Records Form [ENV-REC-003]

Annual EMS Evaluation

Within thirty (30) days of the end of each calendar year, commencing in 2005, the MBTA EMS Team and the Superintendent Orange Line Maintenance shall conduct an EMS evaluation of the Pilot Facilities. Results of evaluation will be recorded on the EMS Evaluation Review Form ENV-FRM-004] and shall be submitted to the MBTA General Manager's Office.

11.0 Public Involvement/Community Outreach

The MBTA EMS promotes ongoing community education and involvement in the environmental aspects of the Pilot Facilities' operations. The MBTA Environmental Affairs Department disseminates timely and accurate environmental information and is responsive to public questions and concerns. The MBTA EMS represents an overall effort by the MBTA to implement proactive policies that reflect its commitment to protecting the environment through compliance with Federal, state, and local environmental regulations and maintaining a dialogue with the community. Its objectives include:

§ Strengthening communication channels between the MBTA and the local community.
§ Responding to public questions and concerns.
§ Disseminating environmental information to MBTA employees and the local community.
§ Encouraging community involvement in evaluation processes.

The MBTA is dedicated to improved public participation practices and is committed to enhancing any and all communication measures currently employed. It is the policy of the MBTA to foster employee awareness of environmental regulations through active information dissemination, and to provide opportunities for the local community to discuss and comment on MBTA projects and operations that impact the environment in accordance with applicable laws and the MBTA EMS. There are several public notification requirements that the Pilot Facilities comply with and that are covered in EMS Pilot Manual. Community relations and public involvement are driven by following all relevant Federal, state, and local laws and regulations pertaining to the management of the environment including, but not limited to:

§ National Environmental Policy Act of 1969, as amended (42, U.S.C. Sections 4321 through 4345)
§ 40 Code of Federal Regulations (CFR) Part 1500, Council on Environmental Quality Regulations
§ Freedom of Information Act of 1996 (FOIA) (5 U.S.C. 552)
§ Pollution Prevention Act of 1990 (42 U.S.C. 13101 et seq.)
§ Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. 9601 et seq.), including the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 11001 et seq.)
§ Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA)

The MBTA Environmental Affairs Department manages environmental public relations for environmental matters within the purview of the EMS and the Environmental Affairs Department. This encompasses hosting information briefings; maintaining environmental regulations; placing public notices in the newspaper; mailing environmental documents; hosting public meetings; preparing and distributing fact sheets; attending community events; and responding to community concerns.

A variety of communication channels are employed to promote the understanding and involvement of the external community. Those channels include, among others:

- Public hearings and meetings.
- News and information releases.
- Dialogue with elected representatives.
- Notifications of public meetings and document availability via direct mail, the World Wide Web, and published notification in the predominant local newspapers.
- Response to written inquiries and comments in a timely and thorough manner.
- Participation in local activities and events.
- MBTA EMS home page.